JPRS L/8895

31 January 1980

East Europe Report

ECONOMIC AND INDUSTRIAL AFFAIRS

(FOUO 1/80)

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APPROVED FOR RELEASE: 2007/02/08: CIA-RDP82-00850R000200040064-5

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EAST EUROPE REPORT

ECONOMIC AND INDUSTRIAL AFFAIRS

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CONTENTS PAGE

CZECHOSLOVAKIA

CSSR FUEL AND ENERGY SITUATION DISCUSSED

Current Status and Outlook

Prague STAVIVO in Czech No 10, 1979 pp 354-355

[Article by Vaclav Hrdlicka, State Planning Commission: "Current Status and Outlook for Fuel and Energy in the CSSR"]

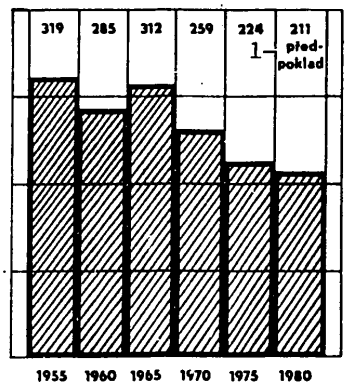
[Text] The development of our national economy has been accompanied by constantly increasing demands on fuel and energy resources and is characterized by two basic traits:

1. Demands on energy, expressed by need indicators for primary sources per unit of national revenue, decreased;

2. Import of primary energy sources to cover domestic needs, increased.

The first trait characterizes the development of primary energy source needs per unit of national revenue, as shown in Sketch 1. This trend was even, except for the 1961-65 period, when the development tempo of the national economy slowed down considerably.

Despite positive results in lowering demands for energy in the national economy, we cannot be satisfied with the status quo. Comparison with other industrially-developed states shows that, with respect to absolute levels, we have higher per capita consumption of fuels and energy with lower gross product formation, i.e., per capita national revenue.



2 **Obr. 1. Potřeba prvotních energetických zdrojů na jednotku národního důchodu v letech 1955 až 1980 (údaje v tis. tmp na 1 mld Kčs národního důchodu)**

1 - Projection
2 - Sketch no. 1. Primary energy sources' need per unit of national revenue during 1955-1980 (figures in thousnads of tmp per one billion korunas of national revenue)

There are many reasons for high energy demands; among the most serious are:

-low level of basic resources exploitation and the consequent insufficient backing of the national economy,

-high material demands of our national economy which emanate from obsolete construction of certain products, insufficiency in modern technology, lower technological level of some products or insufficient development of certain new disciplines which, with respect to both energy and material are not demanding and yet, in terms of achieved prices, are highly profitable (e.g., electronics, measuring and regulatory technology, etc.).

In addition, energy demands in our economy are strongly influenced by our own fuel and energy management. In this connection, we should draw attention especially to the following:

-low level of isntallations which both produce and consume energy and fuels, as shown by comparing indicators of measurable energy needs per units of various types of production (obsolete equipment in the boiler industry, as well as in the area of industrial furnaces);

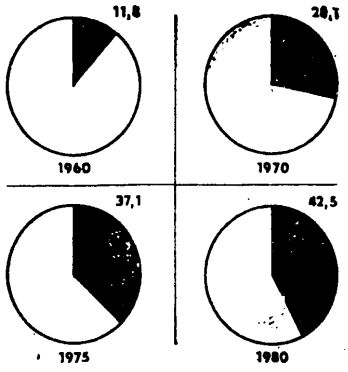
-technically obsolete energy users (e.g., welding aggregates, rotary levelers, lighting technology, etc.);

-unused reserves in heat insulation of buildings and in heating management;

-insufficient exploitation of secondary energy sources and slow application of measuring and regulatory technology in energy and fuels consumption.

A certain portion of the higher energy demands in our national economy is the consequence of a lower share of natural gas and liquid fuels in our fuels and energy inventory in comparison with most other countries, and also the high share of brown coal and its low quality.

The composition and limited volume of our geological fuel reserves, and the favorable price relations on the world market, were the cause of the second basic trait of energy and fuels development, i.e., the lasting growth of imports to cover fuel and energy needs of our economy, as shown in Sketch 2. During the Fifth-Five-Year Plan (1971-75), the increment in imported fuels and energy exceeded the overall increment in their domestic use.



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Obr. 2. Podíl dovozu na krytí domácích potřeb prvotních energetických zdrojů v letech 1960 až 1980 (údaje v %); 1980 = předpoklad

1 - Sketch 2. Share of import to cover domestic needs of primary energy sources during 1960-1980 (figures in %); 1980 is projection.

The increments in imported energy sources in the last two five-year plans included significant quantities of naphtha and natural gas. While during the Fifth Five-Year Plan, import of naphtha rose roughly by 6 million tons and in the Sixth Five-Year Plan we expect a rise of about 4 million tons, In 1985 we can expect at most a 2 million ton rise as compared with 1980.

Import of natural gas rose during the Fifth Five-Year Plan by 2.2 billion cubic meters and in the Sixth Five-Year Plan by 5.2 billion cubic meters; however, in the next five-year plan we can expect a rise in natural gas imports of about 1.5 billion cubic meters at most.

Following the sharp rise in fuels and energy prices on the world markets in late 1973 and early 1974, this development became intolerable for our national economy. Consequently, as early as May 1974, the CSSR government directed a cut-down in the growth of fuel imports, an increase in the role of the domestic fuel base in covering needs, and the creation of comprehensive conditions in the national economy for the implementation of these initiatives.

This was reflected mainly in higher development of our own energy coal; in 1978, 12.7 million tons more of brown coal were mined than in 1974. For the smooth continuation of this much needed trend, however, the necessary conditions were not created in the deliveries and quality of heavy machinery for surface mines which play a decisive role in brown coal extraction. This state of affairs led to a delay of several years before reaching the needed level of extraction volume in the North Bohemian brown coal district, in the Maxim Gorki giant mine, and caused a loss of reserves at other mines which had to cover the shortfall caused by the delays at the giant mine.

The shortcomings in new heavy machinery technology which caused the delays at the Maxim Gorki mine and other extraction sites of surface mines, as well as the loss of dynamics in strip operations, are the main cause of the problems in ocvering the need for brown coal for the population, electric plants, and individual branches of our national economy, which became so painfully apparent during the lasc winter season.

The CSSR adopted measures to improve the parameters and reliability of operations by providing the needed machine technology for surface brown coal mining. Because of the high demands and complexity of these problems, however, their solution will require several years.

Future Outlook for Ensuring Fuel and Energy Sufficiency

The existing situation in the decisive sector of our own fuel base will unfavorably influence the possibilities of fuel and energy development during the next five-year plan, especially in its first half. During this period, nuclear energy cannot yet be of help, since the decisive incerments in its capabilities will be concentrated in the closing years of the Seventh Five-Year Plan. Production of electricity in nuclear plants is to increase during the Seventh Five-Year Plan by 13 billion kWh, of which 9 billion kWh is slated for 1984 and 1985. In the first years of the next five-year plan it will be necessary to cover the growth of electricity consumption primarily from steam electric plants burning brown coal.

Analyses, carried out as part of the preparation for the Seventh Five-Year Plan, of the possible growth of primary energy sources during 1981-85, show that domestic comsumption can count on an increment in primary energy sources

of at most 12 million tmp, while during the current five-year plan, this increment will reach about 15.6 million tmp. Simultaneously, the absolute increment in national revenue should at least remain on the level of the current five-year plan. The question may be asked whether such development can be maintained, given the above-mentioned lower increment in primary energy sources. We can answer this in the positive, even though this will mean a highly complicated and demanding task. The prerequisites for its fulfillment will partially be provided by the very fact that in most products which have high energy requirements we are planning a significant production slowdown. The decisive factor in the successful resolution of this entire problem is the future emphasis on lowering energy demands throughout our economy. The problem is much more pronounced and vital for the future than has been the case heretofore. We do not have conditions to allow for a faster development of our own fuel and energy resources and, given the still rising prices on world markets and the difficulties in procurement, the outlook for increasing fuel and energy resources through import, is extremely limited. From all this there is only one clear conclusion: further dynamic development of our economy can be maintained only if we ensure higher economy and higher level of effectiveness in the use of primary energy sources in the entire reproduction process.

Meeting this task will require in all branches of the national economy and at all levels of management a purposeful and intensive use of all factors contributing to the lowering of energy demands in the economy. This means especially:

-better use of primary sources,

-modernization of the machinery inventory,

-lowering the material demands of production, especially in the area of metals,

-raising the technological level of products for the domestic market, as well as for export, including higher criteria for electricity-consuming appliances produced both for industry and household use,

-far more responsible and demanding approach to the preparation of long-term programs of economy and effectiveness in the consumption of fuels and energy at each and every work site.

The tasks in ensuring economy and effectiveness in fuel and energy consumption in the future are the most complicated as they have to be resolved during a period of stagnation of deliveries of heavy heating oil for the national economy, of gradual lowering of deliveries of light heating oil (about 500 thousnad tmp in 1985, as compared to 1980), of stagnation or negligible growth in deliveries of natural gas and conversion of selected high-grade coal users in production sectors to supplementary fuels, in order to ensure deliveries of high-grade coal to the population.

Meeting the demanding tasks in economy and effectiveness of fuel and energy consumption should be our contribution toward ensuring a dynamic development of our national economy which represents the basic prerequisite for continued growth of the living standard and ever more complete satisfaction of the material and cultural needed of the population. And this, in a socialist society, is our paramount goal.

Streamlining of Consumption

Prague STAVIO in Czech No 10, 1979 pp 356-358

[Article by Miroslav Pavlik, Federal Ministry for Technological and Investment Development: "Directions and Methods of Economy and Effectiveness in Fuel and Energy Consumption"]

[Text] A closely-targeted and society-oriented development toward higher economy and effectiveness is covered by the federal program for economy and effectiveness in fuel and energy consumption during the Sixth Five-Year Plan and beyond, approved in CSSR government resolution no. 287 of 9 December 1976. This program, based on the experiences of the Fifth Five-Year Plan when savings of 8 million tmp were achieved, directs the industrial ministries to implement by 1980 an annual fuel and energy saving of at least 10.2 million tmp. The program includes a series of measures of a technological and economic nature in industrial production, transportation, communications, agriculture, and communal housing. Organizations managed by the national committees are included in the plan for implementation and monitoring of economy and effectiveness in fuels and energy.

Fulfillment to date of tasks assigned by this federal program to construction and transportation provides a realistic indication that the planned volume of fuel and energy savings will be met, even exceeded by 11.8 million tmp annually. Unsatisfactory, however, is the fulfillment of those measures in the federal program which were to create prerequisites for higher effectiveness in the selective use of fuels and energy resources on which the materials and technological base of production depends.

Thus, for example, the introduction of high-tension, semi-conductor technology is limited by the fact that the metallurgy and heavy engineering enterprises do not produce the necessary components in sufficient quantities and delay deliveries of regulators for industrial motors (e.g., mining equipment, conversion of streetcars, etc.), semi-conductor soldering machinery, and silica levelers for city and plant transportation. Also behind schedule is mass pro uction of hologenide and sodium fixtures needed for the conversion of public street lighting to this modern system.

Thus far, we are still not making sufficient use of secondary sources which represent an important reserve in energy management. Studies on these resources, i.e., combustible waste, egress heat from industrial plants, show that in 1980 there will be 5968 tmp of usable sources, whereas programs submitted by individual sectors, however, requires all the needed equipment, e.g., calcinatories, boilers for woody waste, heat converters, pumps, etc.

During the Seventh Five-Year Plan, it is expected that one of the instruments of energy management will be the indicators of measurable energy and fuels comsumption were to be gradually introduced for this purpose. The fulfillment of substantive and deadline harmonograms of introducing these norms is not proceeding satisfactorily in individual sectors. The reason lies in the lack of measuring technology in plants, equipment whose domestic production and import are inadequate.

The basic measure for lowering thermal energy consumption in heating of buildings is better insulation and application of measuring and regulatory technology in heating systems. The tasks to lower heat losses in buildings are gradually being fulfilled, along with the adaptation of the production and technological base of the construction industry. After January 1984, there should be no outside vertical construction materials with heat resistance lower than that prescribed in the amended CSN 73 0540 on Technology of Heating Properties in Building Construction. Under the federal plan, the Ministries of Metallurgy and Heavy Engineering, and General Engineering, were to prepare and submit programs for the production of measuring and regulatory equipment for the monitoring of heating systems. These programs were not prepared and the production not implemented in sufficient volume.

The CSSR government considered and dealt with this unsatisfactory state of affairs, and in resolutions nos. 314/77 and 289/78 assigned appropriate remedial tasks to the ministries.

From the overall evaluation of the fulfillment to date of the federal program for economy and effectiveness in fuels and energy consumption and its effect on the lowering of energy demands of the national economy, one can state that, while the energy demands on the gross national product formation in the first years of the Sixth Five-Year Plan. It is, of course, necessary to consider that the favorable development in the Fifth Five-Year Plan was effected especially by the introduction of high-grade fuels at most effective conversion sites during the first years of the five-year plan, by the savings in fuels and energy emanating from effectiveness and economy campaigns of which some were very important but could not be repeated. Also to consider in this connection was a mild winter and other favorable factors.

During 1976 and 1977, the average rate of growth in ultimate consumption in industry and construction went down from 3 percent of average annual increment in the Fifth Five-Year Plan to 2.15 percent, which confirms the beneficial effect of economy and effectiveness efforts in industrial sectors. On the other hand, in the non-production sphere, the growth of consumption rose significantly from 3.3 percent average annual increment in the Fifth Five-Year Plan to 5.25 percent in 1976 and 1977, and consumption by the population even from 2.9 percent to 5.1 percent.

Toward the goal of achieving a decisive turnaround in lowering energy demands by the national economy, the CPCZ Presidium, in its 84th meeting on 15 September 1978, decreed "....with the framework of preparations for the Seventh

Five-Year Plan, prepare and submit during the first half of 1979 a long-term program for economy and effectiveness in consumption, conservation, and exploitation of all types of fuels and energy."

In accordance with this task - and using experiences to date, the Federal Ministry for Technological and Investment Development prepared a proposal for a long-term program which was approved by the CSSR Government Presidium in resolution no. 36 of 8 February 1979.

As a base in the preparation of the program, the CSSR Government Presidium via the above resolution also approved a series of measures to lower energy demands in all important areas of our national economy.

The measures which the ministries presented in concrete proposals on which the long-term energy program is being formulated, deal mainly with lowering losses in quality improvement processes, conversions and transportation of fuels and energy, lowering energy demands in black metallurgy, consumption of metals, development of qualifying chemical disciplines intended primarily for export in exchange for high-energy products, development of heat-resistant insulation materials, lowering energy demands in transportation and energy consumption in passenger and freight automobile travel, increasing effectiveness of energy use in agriculture and food industry, lowering losses in processing naphtha and petroleum products, increasing energy effectiveness in the communal housing industry, and introducing electronic and micro-electronic technology.

In preparing the long-term program, we recognize that a purposeful implementation of the program demands changes in investment policy and the creation of favorable conditions in the material and technological production base. Therefore, selected measures of the program will be assigned appropriate priorities in the form of closely-targeted federal programs.

In recent years, the tense situation in energy which is of global proportions, has resulted in the fact that both socialist and capitalist countries are working on programs dealing with effective and economical use of fuels and energy.

In the capitalist states, e.g., U.S., Great Britain, France, FRG, Belgium, Austria and Japan, the programs are geared toward reducing the annual increment in energy consumption. Thus, in the U.S. the goal is to reduce consumption growth from the present 3.5 percent annually to 2 percent, and in Great Britain, a per capita lowering of consumption by 10 percent by 1980. The programs also aim at reducing the consumption of liquid fuels, use of domestic energy sources, and new sources, with the aim of reducing oil imports. Much attention is devoted to reductions in consumption in the non-production sphere, especially among the population, by reducing energy waste in home heating. Sizeable funds are made available from the state budget, as well as new technology. The goals of these programs are sufficiently well known from published information.

The socialist states devote great attention to these problems.

A long-term program reaching to 1990 was prepared in the GDR with the aim of achieving during 1976-80 an annual saving in fuels and energy of 5 percent (from this, electric energy 3 percent). Economy and effectiveness programs were prepared for the individual branches and their implementation is ensured by the plan.

In Romania, the government adopted an economy program geared to more effective use of fuels and energy, modernization of energy installations, and exploitation of secondary energy sources.

In Hungary, more economical and effective use of energy is oriented toward lowering energy demands in industry, transportation, and agriculture, with the aim of reducing consumption by 1990 (as against 1977) by 8-10 percent. According to latest information, the program envisages that by 1979, in 50 selected enterprises, there will be a 4 percent rise in production volume (as compared to 1978), without any increase in energy consumption.

Programs to increase efficiency were also introduced in Yugoslavia and Poland. In the long-term Polish program, attention is focused especially on the production of chemical raw materials and gasoline from coal.

In the USSR, the Council of Ministers in June 1978 adopted a resolution calling on all ministries to submit by the end of 1978 proposals for achieving savings in fuels and energy in all branches of the national economy. Simultaneously, the resolution ordered the preparation of requirements in machinery and equipment needed for the implementation of this program.

In the CSSR, the economy and effectiveness policy includes a series of stimulation measures toward material incentives for the workers to generate more interest in plan fulfillment, i.e., in economical and effective use of fuels and energy. This includes the raising of awards for improvements, inventions, and innovative proposals dealing with energy and fuel savings, or with the use of secondary energy sources. A valuable stimulant is also the socialist competition where contests for fuel and energy conservation are often held on all levels of work sites. The Minister of Fuels and Energy, together with the central committee of the miners and energy workers union, proclaimed socialist competition for the Red Banner to be given to the best enterprise in this sector. This year, the tenth annual competition "For Effective and Economical Use of Energy" for individuals and collectives was held, as well as the sixth annual running of a similar contest for members of the Socialist Youth Union and other young people.

Separate measures were also introduced in the area of price policy.

Material incentive for the workers toward achieving economy in the use of materials, fuels and energy, is also backed by the 1978 principles of the Federal Ministry of Labor and Social Affairs. In compliance with these principles, it is possible to pay premiums to workers for maintaining or

lowering energy and fuels consumption, possibly pay rewards to all workers for adopted and implemented proposals resulting in fuels and energy conservation. As much as one third of all premiums and awards may be reserved for workers in the technical fields for achievements in fuel and energy conservation, including the pre-production sector (preparation, planning, construction, etc.).

I have tried to provide a summary of the state and future prospects in the area of effective and economical consumption of fuels and energy. In closing, I consider it necessary to stress once again the importance of using secondary energy resources, with the aim of improving the overall fuels and energy situation. The use of waste combustibles, waste heat, and natural, nontraditional sources should be accorded attention wherever these resources may be found, even in broad cooperation with other sectors.

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CZECHOSLOVAKIA

INVENTORY SHOWS STEADY DECLINE IN AGRICULTURAL LAND

Prague GEODETICKY A KARTOGRAFICKY OBZOR in Czech No 10, 1979 pp 270-276

[Article by Engr Bohumil Kuba, Czech Geodetic and Cartographic Office: "Changes in Agricultural Land in Czech Socialist Republic"]

[Text] An article published in GEODETICKY A KARTOGRAFICKY OBZOR, Vol 1977, No 11 analyzed in detail the problems of management of agricultural land and presented data on the changes in the land structure in the Czech Socialist Republic during the 1966-1976 period.

The summarization of sectoral surveys of areas of cultures carried out by the organs and organizations of the Czech Geodetic and Cartographic Office on the basis of the real estate census of 1 January 1979 and the related analyses of the present state and changes in agricultural land have revealed that agricultural and arable land continues to decline noticeably, and its area per capita in the Czech Socialist Republic is permanently reduced.

Table 1. Changes in land area per capita in CSR during 1965-1978 period

	1965	1970	1975	1976	1977	1978
Area of agricultural land per capita in ares	46.04	44.97	44.02	43.67	43.34	42.96
Area of arable land per capita in ares	34.19	33.40	32.86	32.71	32.56	32.29

According to the real estate census taken on 1 January 1979, there were in the Czech Socialist Republic, 4,411,624 hectares of agricultural land, including 3,316,549 hectares of arable land. Its area reduced absolutely (after compensating for decreases and increases) by 16,346 hectares of agricultural land, including 9,953 hectares of arable land, in 1978.

Table 2. Land Area Per Capita in CSR as of 1 January 1979

Kraj	Total Area		Population	Area per Capita	
	Agric. land	Arable land		Agric. land	Arable land
	in hectares			in ares	
Prague and Central Bohemia	708,563	591,002	2,331,556	30.39	25.35
South Bohemia	593,318	415,928	684,641	86.66	60.75
West Bohemia	533,673	364,730	886,590	60.19	41.14
North Bohemia	404,761	283,316	1,163,976	34.77	24.34
East Bohemia	682,894	500,631	1,246,069	54,80	40.18
South Moravia	918,670	747,004	2,028,987	45.28	36.82
North Moravia	569,745	413,938	1,927,950	29.55	21.47
CSR total	4,411,624	3,316,549	10,269,769	42.96	32.29

The data on agricultural and arable land were most significantly affected by the physical inventory of agricultural land taken by the socialist agricultural organizations in the course of the first 2-year periodical inventory which was ordered by the CSR Ministry of Agriculture and Food for the 1978-1979 period. These inventories revealed that the effective utilization of agricultural land encountered a number of problems which had accumulated over a long period of time. Their scope is indicated for example by the fact that in 1978 alone additional 223,000 cases of improper utilization of agricultural land, involving 113,000 hectares of agricultural land, were established and submitted for decision to the organs of agricultural land protection. The individual data on changes in agricultural land on which the appropriate organs ruled in 1978, although they had taken place previously must be judged accordingly.

Permanent decreases of agricultural and arable land in 1978 were caused primarily by the transfers of lots to forest land and other areas which represent 74.2 percent (16,108 hectares) of total agricultural land loss and 51.6 percent (3,180 hectares) of total arable land loss. The biggest declines in agricultural land were registered in the following krajs: North Moravia (3,407 hectares), South Bohemia (3,006 hectares) and West Bohemia (2,916 hectares). The biggest declines in arable land were registered in West Bohemia (700 hectares) and East Bohemia (603 hectares).

Table 3. Land Structure in CSR as of 1 January 1979

Type of land (culture)	Area (ha)	Percent
Arable land	3,316,549	42.0
Hop-gardens	10,368	0.1
Vineyards	14,297	0.2
Gardens	149,051	1.9
Orchards	53,881	0.7
Meadows	588,032	7.5
Pastures	279,446	3.5
Agricultural land, total	4,411,624	55.9
Forest land	2,618,494	33.2
Fish ponds	51,465	0.6
Other water area	94,799	1.2
Built-up areas and courtyards	119,128	1.5
Other areas	590,816	7.6
Nonagricultural area, total	3,474,702	44.1
Total area of CSR	7,886,326	100.0

The socialist sector operates on 95 percent of agricultural land.

Table 4. Structure of Agricultural and Forest Land in CSR in 1966-1979 Period

Type of land (culture)	As of 1 January of				
	1966	1971	1976	1978	1979
	(ha)				
Arable land	3,347,317	3,314,915	3,316,341	3,326,502	3,316,549
Hop-gardens	9,414	8,927	10,162	10,394	10,368
Vineyards	8,016	10,217	12,409	13,612	14,297
Gardens	146,988	147,092	148,785	149,229	149,051
Orchards	47,970	54,448	54,428	53,839	53,881
Meadows	657,207	639,073	615,281	593,976	588,032
Pastures	291,501	289,403	286,106	280,418	279,446
Agricultural land	4,508,413	4,464,075	4,443,512	4,427,907	4,411,624
Forest land	2,597,999	2,606,261	2,612,461	2,615,535	2,618,494

The area earmarked for capital construction of all types accounts for 22.8 percent (4,959 hectares) of total agricultural land loss and 41.0 percent (2,526 hectares) of arable land loss, while the area earmarked for mining of mineral raw materials for 3.0 percent (655 hectares) of agricultural land loss and 7.4 percent (454 hectares) of arable land loss. At the same time, the area temporarily withdrawn from agricultural production for the above purposes increased by 1,531 hectares of agricultural land, including 1,167 hectares of arable land.

Due to the reappraisal of utilization of agricultural land in the course of inventory of agricultural land, the land in the category of temporarily untilled soil increased by additional 13,740 hectares of agricultural land, including 1,837 hectares of arable land.

In evaluating the generally unfavorable trend in permanent and temporary losses we must appreciate the increases in agricultural and arable land which were achieved by recultivation of nonagricultural land and plowing-up of meadows and pastures for arable land last year. Through the recultivation of nonagricultural land a total of 5,376 hectares of agricultural, including 3,380 hectares of arable land were reclaimed. Through plowing-up of meadows and pastures, arable land increased by an additional 22,758 hectares.

In analyzing the causes of declines in agricultural and arable land, special attention must be paid to the losses caused by the operations of agricultural organizations. In taking inventory of agricultural land, proposals are being made for the permanent elimination from agricultural land of those areas which due to the variety of reasons no longer served the original purpose--agricultural production (remoteness of lots, their steep slope, small size, marshiness, danger of landslide and so on). The reasons advanced in support of these proposals are based on the fact that the recultivation of these lots is unfeasible on technical and economic grounds. In this context it must be pointed out, however, that the protection and literally salvation of agricultural land, which will be needed for production of organic matter even in the remote future, must not be left exclusively to the state organs which decide on the withdrawal of agricultural land from agricultural production. The center of struggle for land must be shifted to the agricultural organizations. Appropriate tillage, employment of erosion preventing procedures, correct fertilizing, regulation of pasture, use of equipment adapted to the ecological parameters of the region--these are only some possibilities of preventive agricultural land protection which is still not fully appreciated by the agricultural organizations.

Very serious are the declines in agricultural and arable land caused by capital construction and mining operations because this land is virtually irrecoverable for agricultural purposes.

Table 5. Losses Caused by Capital Construction in CSR in 1978

Type of Construction	Agricultural Land (ha)	Including Arable land (ha)
Housing and civic	1,746	895
Highways	1,320	766
Water works	802	172
Industry	629	425
Agriculture	462	268
Total in CSR	4,959	2,526

The biggest declines in agricultural land caused by capital construction occurred in South Moravia kraj (1,233 hectares), North Bohemia (734 hectares) and North Moravia (696 hectares). These losses were caused primarily by the big projects such as construction of the Novy Mlyn water reservoir, superhighway in southern Moravia, sandpits in the Litomerice region and so on.

A comparison with the development in the past makes it clear that the declines in agricultural and arable land caused by capital construction have not been reduced. Although the extent of land sequestration for this construction has been affected by some objective factors such as intensive extension of the highway network, housing developments and so on, the principal cause of present shortcomings in this area is the activity of the organs for territorial planning, investors and design units in search of the new, though technically more demanding ways for finding the proper place for the construction project. The producers and processors of territorial planning documentation and particularly the investors do not consistently comply with the strict provisions of the recently amended law on agricultural land protection. The organs at all levels in charge of land protection frequently receive proposals for territorial planning and capital construction projects which call for large-scale elimination of high-quality agricultural and particularly arable land in the intensive areas, while the alternative solutions of placing capital construction on inferior agricultural or nonagricultural land are inadequately explored.

One of the other problems of capital construction, particularly in cities and metropolitan centers which adversely affects agricultural land, is the lack of concentration and combination of investments not only in equipment (construction equipment, equipment for repair shops, warehouses and other areas), but also in administrative buildings, garages, heat plants and so on. Some negative tendencies are noticeable also in the sequestration of land for construction of family houses. It must be stated in this

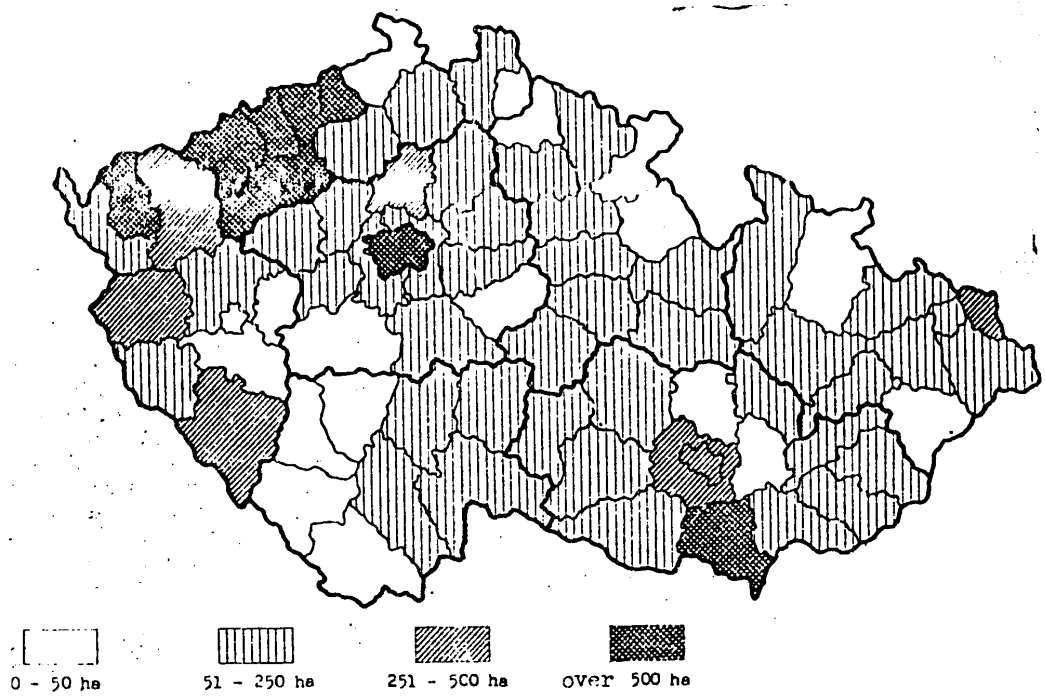
connection that pressure continues to be exerted for construction outside the built-up areas of communities, although in the first place houses should be built on all suitable lots within the community limits and run-down areas and dilapidated buildings should be systematically redeveloped. A case in point is the situation, when family houses in rural communities are constructed on their outskirts, along the highways, on the land used for large-scale agricultural production--instead of being built in the downtown area, on small meadows or in unused gardens, on the areas with obsolete farm buildings and so on. The good results achieved in the Central Bohemia kraj show that the housing problem can be solved in an unconventional way with the minimum sequestration of agricultural and particularly high-quality arable land. The appropriate organs of this kraj have been engaged already for a number of years in redeveloping of run-down sections of communities and putting them to use.

Specific problems arise in a number of areas in connection with the preparation of space for mining operations and exploitation of deposits of mineral raw materials. These questions come to the fore at the present time primarily because, on the basis of the approved conception of development of our fuel-power basis, coal mining virtually in all basins is greatly intensified. Particularly urgent problems in this respect are in the areas of surface mining.

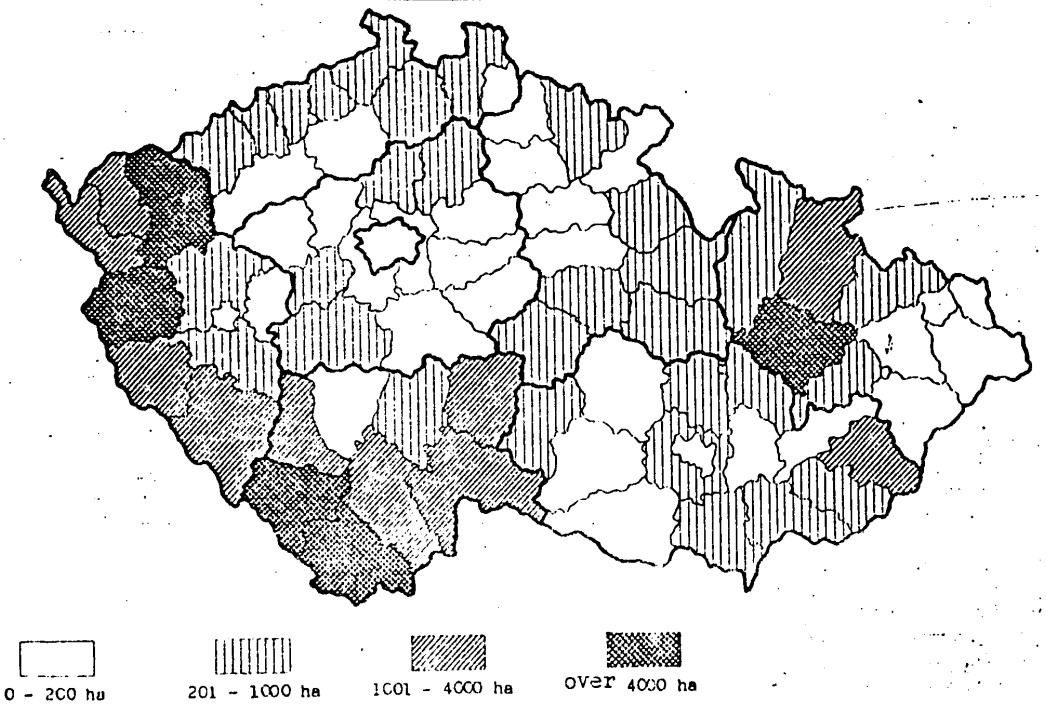
Quarrying of gravel and sand also increases every year because these materials are needed for housing developments, large factory buildings, superhighway and so on. The problems of these mining operations are all the more urgent because they are concentrated in the most productive agricultural production. It is therefore imperative that the use of gravel and sand be reappraised and suitable substitute materials be found and used.

In evaluating the changes in agricultural land also those temporary changes must be taken into account which are decided upon by the organs in charge of land protection. These pieces of land with the original culture indicated are registered in the auxiliary records kept by the geodetic centers and in the enterprise land records kept by the socialist agricultural organizations. The records show the land temporarily withdrawn from agricultural production (Map No 1) which is temporarily designed for investment projects and mining operations, and upon completion of operations will revert to its original purpose. The second category consists of temporarily untilled land (Map No 2) which includes the plots that cannot be cultivated for a variety of reasons at the present time (marshy soil, thin layer of mold and so on), but could be used after reclaiming and recultivation for agricultural production again.

Of the total area of 15,631 hectares of agricultural land 8,130 hectares have been temporarily withdrawn from agricultural production because of impending mining operations. This figure includes considerable areas



Map No 1. Plots temporarily withdrawn from agricultural production (agriculture land)--as of 1 January 1979



Map No 2. Temporarily untiled land (agricultural land)--as of 1 January 1979.

withdrawn from agricultural production prior to the amendment of the law of 1976 on agricultural land protection, when as the areas withdrawn from agricultural production were regarded all areas that were to be eventually recultivated no matter when and regardless of the manner of recultivation (agricultural land, forest land, land helping water conservation). It is evident from the above that a considerable part of the areas included in agricultural land will not revert to agricultural production and new ruling will have to be made on them accordingly. The reversion of temporarily withdrawn land to agricultural use has been very slow. In the North Bohemia kraj for example only 53 hectares were returned to their original purpose in 1978.

The biggest increases in the category of temporarily untilled land in 1978 were in the West Bohemia kraj (3,910 hectares). Since most plots in this category represent the biggest mobilizable reserve for agricultural production, agricultural administrations and agricultural enterprises must, in drawing their reclamation plans, include in the first place the plots in this category in the recultivation plan. The recultivation of temporarily untilled land did not proceed in a number of instances in accordance with the reclamation programs. One of the cases of this unsatisfactory situation lies in the fact that agricultural enterprises in their reclamation operations prefer projects with smaller investments and technical demands to the reclamation of plots requiring larger financial funds and bigger capacities.

Table 6. Summary of Temporary Changes in CSR as of 1 January 1979

Kraj	Land temp. withdrawn from agricultural production		Temporarily untilled land	
	Agricultural land (ha)	Arable land (ha)	Agricultural land (ha)	Arable land (ha)
Capital of Prague	548	503	5	4
Central Bohemia	1,450	1,196	2,155	373
South Bohemia	471	279	23,557	575
West Bohemia	2,377	1,186	24,580	1,164
North Bohemia	6,136	5,080	4,169	1,131
East Bohemia	828	570	3,211	254
South Moravia	2,488	2,086	4,822	1,706
North Moravia	1,333	872	7,288	313
Total in CSR	15,631	11,772	69,787	5,520

The changes in agricultural land were, in accordance with CSR Government resolution No 293/1974, discussed by the councils of kraj and okres national committees on the basis of the data contained in the analyses of

changes in agricultural land which had been processed by the organs and organizations of the Czech Geodetic and Catographic Office. The meetings of councils of national committees resulted in a number of specific measures which aim at the elimination of existing shortcomings. The respective departments of kraj and okres national committees were instructed in particular:

--to evaluate according to stricter criteria all demands for withdrawals of agricultural land from agricultural production, primarily of the best arable land for any construction unless it is unambiguously proved that the proposed change is, on the basis of all alternatives considered, most advantageous from the standpoint of the society, including agricultural production;

--to insist more consistently on the return of land temporarily used for nonagricultural purposes and to verify the unfavorable structure by the recultivation of devastated agricultural land in order to increase the scope of agricultural recultivation;

--simultaneously with the protection of agricultural land, to systematically include all reserve land in agricultural production according to a plan;

--to intensify activity of advisory organs of kraj and okres national committees and of working conferences for a comprehensive solution of the problems related to the protection and utilization of agricultural land. This work should aim at establishing order in the utilization of agricultural land and processing of the results of physical inventories of agricultural land in the socialist agricultural organizations;

--in the organs, which are in charge of the protection of agricultural land, to create conditions for a systematic, careful and rapid verification of all proposals of agricultural organizations for the changes in the utilization of agricultural land which will result from the inventory of agricultural land;

--to insure permanent and consistent checks on the implementation of all measures adopted for the protection and utilization of agricultural land.

Although the results of the changes in agricultural land in 1978 are largely unfavorable, some areas of its protection and utilization registered a positive development. As particularly positive must be regarded more intensive cooperation of the appropriate organs of national committees at all levels, agricultural administrations, organs and organizations of geodesy and other technical institutions in the solution of present demanding problems related to the establishment of order in the utilization of agricultural land and its registration. A systematic fulfillment of this task will create prerequisites for the stabilization of agricultural land used for large-scale production in the socialist agricultural enterprises, and provide a complete picture of the real, approved structure of agricultural land for management and planning of agricultural production and for its further intensive utilization and protection.

Past experiences with the application of new regulations in the area of agricultural land protection reveal that the effective land protection largely depends upon competent and conceptual work of organs in charge of land protection and their active cooperation with the organs of state management of agriculture, organs and organizations of geodesy, departments of national committees for construction and territorial planning and other institutions. After 2 years which elapsed since the adoption of the law we can state that the overwhelming majority of organs in charge of land protection in the krajs and okreses pays systematic attention to the complex of problems related to the protection of agricultural land and tries to find more effective forms and methods for accomplishing the goals which are set every year for the utilization, reclamation and registration of land.

We must regard as positive the rising standard of work of advisory organs to the councils of kraj and okres national committees on the comprehensive solution of questions related to the protection and utilization of agricultural land. We must particularly appreciate the initiative approach of the work group at the CPCZ kraj committee of North Moravia to the implementation of political and organizational measures whose aim is the establishment of order in the utilization of agricultural land in the kraj.

Apart from the positive results, we must not overlook certain shortcomings. The basic problems arising from the sequestration of high-quality agricultural land for capital construction projects must be seen in the fact that individual ministries pay inadequate attention to the protection of agricultural land in their investment policies and activity of their experts, and fail to create, already in the preliminary work, the necessary prerequisites for carrying out their construction projects on the land of lower quality.

Another negative phenomenon noticeable particularly in the last 2 years is the tendency of a number of agricultural enterprises to transfer from agricultural land--primarily to forest land and other areas--those plots which are difficult to work with the present-day large-scale production technology and whose utilization is more costly.

Past experiences reveal also that the organs in charge of land protection have so far applied sanctions only in very rare instances, although they should have become one of the major economic tools not only for the consistent compliance with the law on the protection of agricultural land, but also for meeting on time the necessary conditions specified by the organs in charge of land protection in their decisions on the withdrawal of agricultural land from agricultural production.

Essential problems arising in the process of physical inventory of agricultural land and in keeping enterprise records of land in the socialist agricultural organizations are solved through cooperation of the Ministry

of Agriculture and Food, geodetic and cartographic sector and national committees. In this context, an important role is played by the national system of real estate records which is now being set up and which in the first phase takes into account primarily the needs of agriculture. Its purpose is, after establishing order in the utilization of agricultural land, to provide prompt and accurate information on the land structure especially for planning and management of agricultural production, and to define the function of real estate registration and enterprise land records in the socialist agricultural organizations. The complete implementation of the system in 1980 will be linked to the completion of the first 2-year inventory of agricultural land taken in 1979. The detailed analyses reveal that, due to the continuing inventory of agricultural land and related decisions of the organs in charge of agricultural land protection, bigger declines in agricultural and arable land must be anticipated. Certain stabilization of agricultural land structure and more favorable development can be expected in 1981.

Important suggestions related to the problems of protection, utilization and changes in agricultural land were made at this year's 13th plenary meeting of the CPCZ Central Committee and Ninth Congress of unified agricultural cooperatives and subsequently discussed by the highest state organs. By its resolution No 136 of 18 April 1979, the CSR Government adopted a number of measures for more effective management of agricultural land which have already been worked out in detail by the appropriate ministries and incorporated in the national committees' programs.

Last july, the CSR Government discussed the report on changes, protection and utilization of agricultural and forest land in 1978 which was submitted by the chairman of the Czech Geodetic and Cartographic Office in cooperation with the CSR ministries of agriculture and food and forestry and water management. The government critically evaluated changes in the land structure and by its resolution No 219 adopted additional specific measures for the nearest future. These measures will create more effective and comprehensive prerequisites for a more consistent protection of agricultural and forest land in connection with capital investment projects of all types. They stress the importance of early completion of the physical inventory of agricultural land in the socialist agricultural organizations and of the related decisions of the organs in charge of agricultural land protection. Furthermore, they emphasize the utilization by mass organizations of small agricultural areas which are not suitable for large-scale agricultural production, consistent application of sanctions according to the law on agricultural land protection and thorough checks on the implementation of land protection measures.

The workers of the Czech Geodetic and Cartographic Office and geodetic centers will significantly contribute to the implementation of these measures. The results of the physical inventory of agricultural land must be reflected in the working documents of real estate registration

and summaries of areas of individual cultures as of 1 January 1981. Their entire activity will effectively contribute also in the future to the solution of a large complex of problems related to the protection and utilization of agricultural and forest land.

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